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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,927	11/06/2003	Alan D. Norris	FIS920030305	2926
30449	7590	02/23/2006	EXAMINER	
SCHMEISER, OLSEN + WATTS 3 LEAR JET LANE SUITE 201 LATHAM, NY 12110			CHUNG, PHUNG M	
			ART UNIT	PAPER NUMBER
			2138	

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/605,927	<b>Applicant(s)</b> NORRIS ET AL.	
	<b>Examiner</b> Phung My Chung	<b>Art Unit</b> 2138	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 15-20 is/are pending in the application.
- 4a) Of the above claim(s) 8-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 15-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

**DETAILED ACTION**

1. Applicant's election with traverse of Group I, claims 1-7 and 15-20 in the reply filed on 12/19/05 is acknowledged. The traversal is on the ground(s) that claim 6 of Group I does include the limitation of claim 8 of Group II, for example: peripheral logic circuits of the DDR DRAM are adapted to execute a write burst enable and a column address command one clock cycle earlier in test mode than in operational mode, adapted to execute an auto-pre-charge enable one-half clock cycle earlier in test mode than in operational mode, and having a column address latency of one clock cycle in test mode and two or three clock cycles in operational mode. Therefore, all claims 1-20 is sufficiently related that a thorough search for the subject matter of any one group of claims would encompass a search for the subject matter of the remaining claims. This is not found persuasive because the limitation of claim 6 is dependent on claim 1 which include: a) Placing the DDR DRAM in test mode;

b) Issuing a bank activate command to select a word line for write of the DDR DRAM;

c) writing with auto-pre-charge, a test pattern to cells of the DDR DRAM;

d) repeating b) and c) until all word lines for write have been selected;

e) issuing a bank activate command to select a word line for read of the DDR DRAM;

f) reading with auto-pre-charged, the stored test pattern from cells of the DDR DRAM; and

g) repeating e) and f) until all word lines for read have been selected, which are not recited in independent claim 8 of Group II.

The requirement is still deemed proper and is therefore made FINAL.

### **Abstract**

2. The abstract of the invention is objected to because it contains the language that can be implied (i.e. "described").
3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

### ***Claim Rejections - 35 USC § 112***

4. Claims 1-7 and 15-20 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. Paragraphs (0031) to (0032), after the activation of the word lines for write and read test patterns to and from the DRAM, the output patterns are compared to the inputted test patterns to determine which DRAM cells are connected to defective word lines or bit lines is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). Since claims 1 and 15 are

methods for testing a DDR DRAM .Therefore, they should include the essential step of comparing the output test patterns with the inputted test patterns to determine which DDR DRAM cells are connected to defective word lines or bit lines.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-2 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jain (2003/0063517).

As per claims 1-2, Jain discloses a method, comprising:

- a) Placing the memory banks in test mode;
- b) Issuing a bank activate command to select a word line for write of the memory bank;

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- c) writing with auto-pre-charge, a test pattern to cells of the memory bank;
- d) repeating b) and c) until all word lines for write have been selected;
- e) issuing a bank activate command to select a word line for read of the memory bank;
- f) reading with auto-pre-charged, the stored test pattern from cells of the memory bank; and
- g) repeating e) and f) until all word lines for read have been selected.

(See Fig.1 and paragraphs (0010) to (0015) and paragraphs 90025) to (0026)). Jain does not disclose the memory is a DDR DRAM. However, Thwaite discloses that memory is a double data rate dynamic random access memory (DDR DRAM) (col. 1, lines 23-35). Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention, to incorporate the DDR DRAM as taught by Thwaite into the invention of Jain to achieve a high speed operation during which two data transfers are made per clock cycle, one upon the rising edge of the clock and the other upon the falling edge.

As per claims 15-16, these claims are rejected under similar rationale as set forth in claims 1-2.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phung My Chung whose telephone number is 571-272-3818. The examiner can normally be reached on Monday to Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on 571-272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Phung My Chung', with a long horizontal flourish extending to the right.

Phung My Chung  
Primary Patent Examiner  
Art Unit 2138